Pest Management Regulatory Agency
Agricultural Buffer Zone Proposal

Presentation to the

Pest Management Advisory Council

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Overview

- Background
- Proposed approach

Background: Stakeholder Comments

- No observable adverse effects
- Perceived to be overprotective
  - "Too big"
- Not reflective of "real world"
  - Area requiring protection
  - Application methodology

PMRA Perspective

- One size fits all
- No flexibility based on:
  - Adjacent sensitive habitat
  - Application conditions
- Doesn't 'credit' drift reducing technologies

Goals

- Provide flexibility
- Recognize different habitats
- Reward efficient application
- Remain protective

Buffer Zone Proposal

- Application Specific Variable Buffer Zones
- Method for applicator to adjust (modify) labelled buffer zone based on:
  - Sensitive habitat impacted
  - Application specific variables
    - meteorological conditions
    - sprayer configuration

Sensitive Habitats

- Aquatic areas
  - Labelled buffer zone modified based on depth of water
- Terrestrial areas
  - No buffer zone modifiers
  - List of exclusions

Aquatic Sensitive Habitat Modifiers

Depth (m) (estimated average depth)	Multiplier		
	Field	Airblast	Aerial
< 1	1.0	1.0	1.0
1 – 3	0.4	0.7	0.5
> 3	0.2	0.3	0.1

Application Specific Variables

- Meteorological conditions
- Sprayer configuration
- Other

Meteorological Variables

- Wind speed
- Atmospheric stability
  - Labelled
- Temperature
- Humidity

Configuration Variables

- Spray quality
- Boom height and length
- Carrier volume
- Shrouds and cones
- Sprayer type

Other Variables

- Travel speed
- Crop growth stage

Field, Airblast, Chemigation Application Modifiers

- Obtained by examination of literature
  - Relationship between variable and drift/deposit
- Reduced variables to those:
  - Relevant
  - Greatest impact

Field Application Variable

- Meteorological conditions
  - Wind speed
- Sprayer configuration
  - Spray quality (DSD)
  - Boom height
- Shrouds and cones

Field Application Modifiers

Low Boom				
Wind Speed (km/h)	Spray Quality			
	Fine	Medium	Coarse	Very Coarse
1-8	0.8	0.2	0.1	0.0
9-16	1.2	0.6	0.3	0.1
17-25	1.6	1.0	0.6	0.2
High Boom				
Wind Speed (km/h)	Spray Quality			
	Fine	Medium	Coarse	Very Coarse
1-8	1.6	0.3	0.2	0.2
9-16	2.3	1.1	0.6	0.2
17-25	3.1	1.9	1.1	0.4

Field Application Modifiers

Low Boom – Drift Reducing Cones				
Wind Speed (km/h)	Spray Quality			
	Fine	Medium	Coarse	Very Coarse
1-8	0.6	0.1	0.1	0.0
9-16	0.8	0.4	0.2	0.1
17-25	1.1	0.7	0.4	0.2
Low Boom – Drift Reducing Shrouds				
Wind Speed (km/h)	Spray Quality			
	Fine	Medium	Coarse	Very Coarse
1-8	0.2	0.1	0.0	0.0
9-16	0.4	0.2	0.1	0.0
17-25	0.5	0.3	0.2	0.1

Buffer Zone Proposal

- **Spray drift management** booklet
  - Buffer zones modifier tables
  - Best management practices

- Easier to update
  - Additional drift reduction modifiers
  - Advances in spray drift reduction technology

Proposed Procedure

Registration

- PMRA sets buffer zone using standard scenarios
- Buffer zone is put on the label

Proposed Procedure

Use

- Voluntary modification of labelled buffer zone
- Applicator surveys the area of application
- Applicator notes meteorological conditions at time of application
- Applicator notes equipment setup

Proposed Procedure

Use

- Applicator determines application specific modifiers from tables
- Labelled buffer zone is adjusted appropriately
- Details recorded on “Application Record” form

Advantages

- Provides flexibility
  - Products can be used in situations where labelled buffer zone is impractical
- Rewards efficient application
  - Encourages drift reducing application strategies
- Amenable to spray technology progress
  - Proven technologies can be added

Advantages

- No cost to applicator
  - Voluntary
  - Additional equipment not needed
- Recognizes different habitats
  - Allowances for various water depths
- Remains environmentally protective
  - Modifiers based on empirical data

Future Directions

- Incorporation of other variables
  - Low drift nozzles
  - Leaf area index for orchards
- Collaboration with other agencies
  - EPA
  - Australia

Questions

- 1. What concerns, if any, do you have regarding the proposed strategy?
- 2. What issues do you see as key for implementation?
- 3. Are their additional approaches that the PMRA should consider to mitigate environmental risk?